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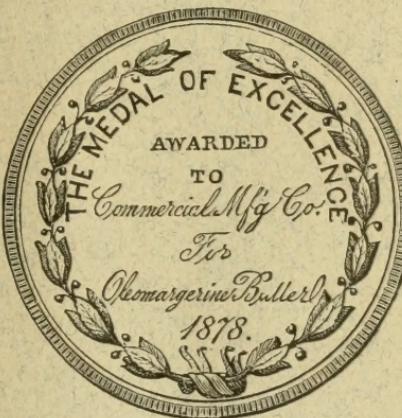
UNITED STATES OF AMERICA.

OLEOMARGARINE BUTTER:

THE NEW ARTICLE OF COMMERCE.

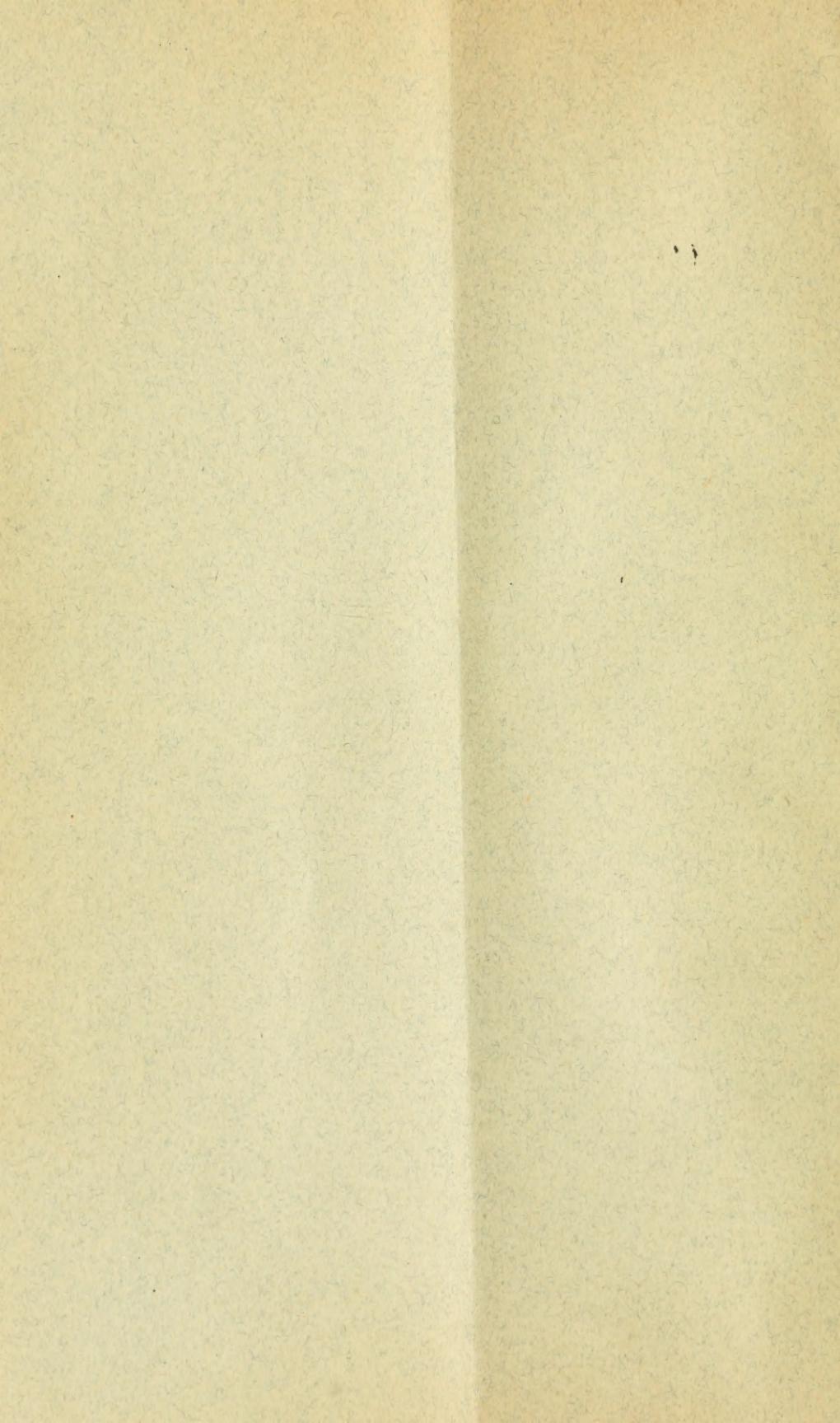
CHEMICALLY ANALYZED BY THE MOST SKILLFUL AND DISTINGUISHED
SCIENTISTS,

DEMONSTRATING ITS PURITY.



Award of the American Institute, and Opinions of Prof. C. F. Chandler, President of the New York Board of Health; Prof. George F. Barker, of the University of Pennsylvania; Dr. Henry A. Mott, Jr., of New York; Prof. S. C. Caldwell, of Cornell University; Prof. S. W. Johnson, of Yale College; Prof. C. A. Goessmann, of the Massachusetts Agricultural College; Prof. Henry Morton, of the Stevens Institute of Technology, of Hoboken; Dr. Charles P. Williams, of Philadelphia; Prof. Atwater, of the Wesleyan University, and Prof. Arnold, of the University of New York.

NEW YORK:
COMMERCIAL MANUFACTURING COMPANY,
48TH STREET AND NORTH RIVER.
1880.



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Commercial manuf. company.

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the New York Board of Health; PROF. GEORGE F. BARKER, of the University of Pennsyl-
vania; DR. HENRY A. MOTT, JR., of New York; PROF. S. C. CALDWELL, of Cornell
University; PROF. S. W. JOHNSON, of Yale College; PROF. C. A. GOESSMANN, of
the Massachusetts Agricultural College; PROF. HENRY MORTON, of the
Stevens Institute of Technology, of Hoboken; DR. CHARLES P. WILLIAMS,
of Philadelphia; PROF. ATWATER, of the Wesleyan University, and
PROF. ARNOLD, of the University of New York.*

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OLEOMARGARINE BUTTER.

Answer of Prof. Chandler to a Congressional Inquiry.

Hon. Morgan R. Wise of Pennsylvania, Chairman of the Committee on Manufactures, of the House of Representatives, addressed a letter to Prof. Charles F. Chandler, President of the New York Board of Health, informing him that the Committee has under consideration a bill in relation to adulterations in food and drink, and asking whether the article known as Oleomargarine, or Butterine is wholesome or unwholesome, and for such other information as might be in the possession of the Board. The following is Prof. Chandler's response:

HEALTH DEPARTMENT, 301 MOTT STREET,
NEW YORK, *March 27, 1880.*

MY DEAR SIR:

In reply to your letter of inquiry, I would say that I have been familiar with the discovery of Mége Mouries and its application in the manufacture of artificial butter, called "Butterine," or "Oleomargarine," since the date of its first publication.

I have frequently seen it manufactured, witnessing all the operations, and examining both the material and the product.

I have studied the subject with special reference to the question of its use as food, in comparison with the ordinary butter made from cream, and have satisfied myself that it is quite as valuable as the butter from the cow; that the material from which it is manufactured is perfectly fresh beef suet; that the processes are harmless; that the manufacture is conducted with great cleanliness. The product is palatable and wholesome, and I regard it as a most valuable article of food, and consider the discovery of Mége Mouries as marking an era in the chemistry of the fats.

Butterine is manufactured of uniform quality the year round, and can be sold at a price far below that at which ordinary butter is sold. It does not readily become rancid, and is free from the objectionable taste and odor which characterize a large proportion of the butter sold in this market.

I am informed that there are at present thirteen factories in the United States licensed under the patents to manufacture this butter. The Commercial Manufacturing Company of New York is making at the present from 30,000 to 40,000 lbs. daily. In addition to this industry, there is a large manufacture of what is known as "oleomargarine oil," which is shipped as such to Europe, to be there converted into butter; so that this product has become an important article of export to foreign countries.

The beef suet which was formerly converted into common tallow, only suitable for the manufacture of soap, is, by this beautiful discovery, now manufactured into oleo-

margarine oil and stearine of double the value of the tallow formerly produced. The following analyses made by Drs. Brown and Mott sufficiently illustrate the composition of the Butterine:

	Constituents.	No. 1. Natural Butter.	No. 2. Artificial Butter.
Water.....		11,968	11,203
Butter solids		88,032	88,797
		100.000	100.000
Insol. fats....	{ Olein..... Palmatin..... Stearine..... Arachin..... Myristin..... Butyrin.....	23.824	24.893
Sol. fats.....	{ Caprin..... Caproin..... Caprylin.....	51.422	56.29
Casein		7.432	1.823
Salt.....		.192	.621
Coloring matter.....		5.162	5.162
		Trace.	Trace.
		88.032	88.797

Last winter a resolution was adopted by the Legislature of the State of New York, requesting the Board of Health of the City of New York to investigate the subject and report whether in its opinion the Butterine is a wholesome article of food. In response to this resolution, the Board of Health stated that in its opinion there is no sanitary objection whatever to the unrestricted manufacture and sale of this substance.

In support of my opinion herein expressed, I enclose the statement to the same effect made by Prof. George F. Barker, of the University of Pennsylvania; Dr. Henry A. Mott, Jr., of New York; Prof. S. C. Caldwell, of Cornell University; Prof. S. W. Johnson, of Yale College; Prof. C. A. Goessmann, of the Massachusetts Agricultural College; Prof. Henry Morton, of the Stevens

Institute of Technology, of Hoboken; Dr. Chas. P. Williams of Philadelphia; Prof. W. O. Atwater, of the Wesleyan University at Middletown, Conn.; and Prof. J. W. S. Arnold, of the Medical Department of the University of New York.

Hoping that this, my reply, contains all the information you desire, I remain,

Very respectfully yours,

CH. F. CHANDLER, PH.D.,

Prest. of the Board of Health.

To Hon. M. R. WISE,

Chairman of the Committee on Manufactures,

House of Representatives, Washington, D.C.

(*Letter from Prof. Barker.*)

UNIVERSITY OF PENNSYLVANIA,

PHILADELPHIA, March 22, 1880. }

THE UNITED STATES DAIRY Co.:

Gentlemen:—In reply to your inquiry, I would say that I have been acquainted for several years with the discovery of Mége-Mouries for producing Butterine from oleomargarine fat. In theory, the process should yield a product resembling butter in all essential respects, having identically the same fatty constituents. The Butterine prepared under the inventor's patents is, therefore, in my opinion, quite as valuable a nutritive agent as butter itself. In practice, the process of manufacture, as I have witnessed it, is conducted with care and great cleanliness. The Butterine produced is pure and of excellent quality, is perfectly wholesome, and is desirable as an article of food. I can see no reason why Butterine should not be an entirely satisfactory equivalent for ordinary butter, whether considered from the physiological or commercial standpoint.

Respectfully yours,

GEORGE F. BARKER.

(*Letter from Prof. Morton.*)

STEVENS INSTITUTE OF TECHNOLOGY,
HOBOKEN, NEW JERSEY, *March 16, 1880.* }

UNITED STATES DAIRY Co. :

Gentlemen :—During the last three years I have had occasion to examine the product known as artificial butter, Oleomargarine, or Butterine, first produced by M. Mége, of Paris, and described by him in his patent of July 17th, 1869.

I have also frequently witnessed the manufacture of this material, and with these opportunities of knowing exactly what it is, I am able to say with confidence that it contains nothing whatever which is injurious as an article of diet; but, on the contrary, is essentially identical with the best fresh butter, and is very superior to much of the butter made from cream alone which is found in the market.

The conditions of its manufacture involve a degree of cleanliness and consequent purity in the product, such as are by no means necessarily or generally attained in the ordinary making of butter from cream.

Yours, etc.,

HENRY MORTON.

(*Letter from Prof. Johnson.*)

SHEFFIELD SCIENTIFIC SCHOOL OF YALE COLLEGE, }
NEW HAVEN, CONNECTICUT, *March 20th, 1880.* }
THE UNITED STATES DAIRY Co. :

Gentlemen :—I am acquainted with the process discovered by M. Mége, for producing the article known in commerce as Oleomargarine or Butterine.

I have witnessed the manufacture in all its stages, as carried out on the large scale, and I can assert that when it is conducted according to the specifications of M. Mége, it cannot fail to yield a product that is entirely attractive

and wholesome as food, and one that is for all ordinary culinary and nutritive purposes the full equivalent of good butter made from cream.

Oleomargarine Butter has the closest resemblance to butter made from cream in its external qualities—color, flavor, and texture. It has the same appearance under the microscope, and in chemical composition differs not in the nature, but only in the proportions of its components. It is therefore fair to pronounce them essentially identical.

While Oleomargarine contains less of those flavoring principles which characterize the choicest butter, it is, perhaps, for that very reason, comparatively free from the tendency to change and taint which speedily renders a large proportion of butter unfit for human food.

I regard the manufacture of Oleomargarine or Butterine as a legitimate and beneficent industry.

S. W. JOHNSON,

Professor of Theoretical and Agricultural Chemistry; Director of the Connecticut Agricultural Experiment Station.

(*Letter from Prof. Caldwell.*)

CHEMICAL LABORATORY, CORNELL UNIVERSITY, }
ITHACA, N. Y., March 20, 1880. }

I have witnessed, in all its stages, the manufacture of "Oleomargarine" and of Oleomargarine Butter or "Butterine."

The process for Oleomargarine when properly conducted, as in the works of the Commercial Manufacturing Co., is cleanly throughout, and includes every reasonable precaution necessary to secure a product entirely free from animal tissue, or any other impurity, and which shall consist of pure fat made up of the fats commonly known as oleine and margarine. It is, when thus prepared, a tasteless and inodorous substance, possessing

no qualities whatever that can make it in the least degree unwholesome when used in reasonable quantities as an article of food.

In the manufacture of Butterine, since nothing but milk, annatto, and salt, together with perhaps a little water from clean ice, are added to this Oleomargarine, to be intimately mixed with it by churning and other operations, I have no hesitation in affirming that this also, when properly made according to the Mége patent and other patents held by the United States Dairy Co., and when used in reasonable quantities, is a perfectly wholesome article of food ; and that, while not equal to fine butter in respect to flavor, it nevertheless contains all the essential ingredients of butter, and since it contains a smaller proportion of volatile fats than is found in genuine butter, it is, in my opinion, less liable to become rancid.

It cannot enter into competition with fine butter ; but in so far as it may serve to drive poor butter out of the market, its manufacture will be a public benefit.

S. C. CALDWELL.

(Letter from Prof. Goessmann.)

AMHERST, MASS., March 20, 1880.

UNITED STATES DAIRY CO., NEW YORK:

Gentlemen :—I have visited, on the 17th and 18th of the present month, your factory, on West Forty-eighth Street, for the purpose of studying your mode of applying Mége's discovery for the manufacture of Oleomargarine Butter or Butterine. A careful examination into the character of the material turned to account, as well as into the details of the entire management of the manufacturing operation, has convinced me that your product is made with care, and furnishes thus a wholesome article of food. Your Oleomargarine Butter or Butterine

compares in general appearance and in taste very favorably with the average quality of the better kinds of the dairy butter in our markets. In its composition it resembles that of the ordinary dairy butter; and in its keeping quality, under corresponding circumstances, I believe it will surpass the former; for it contains a smaller percentage of those constituents (glycerides of volatile acids) which, in the main, cause the well known rancid taste and odor of a stored butter.

I am very respectfully yours,

C. A. GOESSMANN, Ph.D.,

Professor of Chemistry.

(*Letter from Dr. Williams.*)

LABORATORY, No. 912 SAMSON STREET,
PHILADELPHIA, *March, 22, 1880.*

During a period of upwards of two years I have been practically familiar with the details of the manufacture by the Mége method of Oleomargarine Butter or "Butterine." From my experience and observation of the care and cleanliness absolutely necessary in the manufacture of this product, together with my knowledge of its composition, I am satisfied that it is a pure and wholesome article of food, and in this respect, as well as in respect to its chemical composition, fully the equivalent of the best quality of dairy butter.

I will add further, that, owing to the presence of a less quantity of the volatile fats, the keeping qualities of the Oleomargarine Butter are far superior to those of the dairy product.

CHARLES P. WILLIAMS, Ph.D.,

*Analytical Chemist; late Director and Professor Missouri School of Mines,
State University.*

(*Letter from Dr. Mott.*)

H. A. MOTT, JR., PH.D., E.M., }
 ANALYTICAL AND CONSULTING CHEMIST. }
 OFFICE, 117 WALL STREET,
 NEW YORK, *March 12, 1880.*

UNITED STATES DAIRY CO.:

Gentlemen:—Having been acquainted for the past six years with the process of the manufacture of the product called Oleomargarine Butter, or Butterine, and having made numerous microscopical and chemical examinations of the product, I am clearly of the opinion that the product called Oleomargarine Butter is essentially identical with butter made from cream; and as the former contains less of those fats which, when decomposed, render the product rancid, it can be kept pure and sweet for a much longer time.

I consider the product of the Mége discovery a perfectly pure and wholesome article of food, which is destined to supplant the inferior grades of butter, and be placed side by side with the best product of the creamery.

Respectfully,

HENRY A. MOTT, JR., PH.D.

(*Letter from Prof. Arnold.*)

UNIVERSITY PHYSIOLOGICAL LABORATORY, }
 410 EAST 26TH ST., *April 2, 1880.* }

This is to certify that I have carefully examined the "Mége Patent Process" for the manufacture of Oleomargarine Butter or Butterine; that I have seen and tasted at the factory each and every ingredient employed; that I have made thorough microscopical examinations of the materials used and of the butter; and I consider that each and every article employed in

the manufacture of Oleomargarine Butter or Butterine is perfectly pure and wholesome; that the Oleomargarine Butter differs in no essential manner from butter made from cream; in fact, the Oleomargarine Butter possesses the advantage over natural butter of not decomposing so readily, as it contains fewer volatile fats. In my opinion, Oleomargarine is to be considered a great discovery, a blessing for the poor, and in every way a perfectly pure, wholesome, and palatable article of food.

J. W. S. ARNOLD, A.M., M.D.,

Prof. Physiology and Histology, Med. Dep. Univ. New York.

(*Letter from Prof. Atwater.*)

WESLEYAN UNIVERSITY,
MIDDLETOWN, CONN., *March, 29, 1880.* }

I have carefully looked into the theory and the practice of the manufacture of Butterine (Oleomargarine) by the "Mége process," and examined the product. A consideration of the materials used, the process of manufacture, and the chemical and microscopical character of the Butterine, seem to me to fully justify the following statements:

As to its qualitative composition, it contains essentially the same ingredients as natural butter from cows' milk.

Quantitatively, it differs from ordinary butter in having but little of the volatile fats which, while they are agreeable in flavor, are, at the same time, liable to rancidity. I should, accordingly, expect Butterine to keep better than ordinary butter. The best evidence within my reach indicates that just such is the case. The butterine is perfectly wholesome and healthy, and has a high nutritious value. The same entirely favorable opinion I find expressed by the most prominent European

authorities—English, French and German—who are unanimous in their high estimate of the value of the “Mége discovery,” and approval of the material whose production has thereby been made practicable.

I am very truly yours,

W. O. ATWATER.

Award of the American Institute.

OFFICE OF THE GENERAL SUPERINTENDENT OF THE }
AMERICAN INSTITUTE OF THE CITY OF NEW YORK,
NEW YORK, *March 24th, 1880.* }

Copy of the Judges' Report in Department VII., Group 3,
at the Forty-seventh Exhibition of the American
Institute, held in the City of New York, October
and November, 1878.

No. 879.—OLEOMARGARINE BUTTER.

COMMERCIAL MANUFACTURING CO.,

643 West 48th Street, New York.

The Oleomargarine Butter (Mége's process), has the general appearance of the usual style of good dairy butter. The texture presents some slight difference to the eye of an expert. The absence of some of the elements which give the peculiar aroma to the best quality of spring grass butter, tends to prevent the approach of any unpleasant change in this article, and it is thus enabled to resist the effects of time, as upon a long sea voyage.

We have examined the process of manufacture, and find the product clean and wholesome.

While the best quality of dairy butter must still maintain its superiority, any departure from the most perfect manufacture will make the Oleomargarine a dangerous rival.

This process utilizes valuable animal products, and makes useful in the kitchen and upon the dining-table much that was formerly used for less important purposes and for this and its keeping qualities it should receive some recognition by the Institute.

A. S. HEATH, M.D.,
ROBT. J. DODGE,
WILLET SEAMAN. } Judges.

The Medal of Excellence Awarded.

A true copy of the Report on file.

D. R. GARDEN,
Assistant Clerk.



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